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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,475	09/26/2000	Brian L. Hinman	PA1604	4314
8791	7590	04/01/2005	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN			LIU, SHUWANG	
12400 WILSHIRE BOULEVARD			ART UNIT	
SEVENTH FLOOR			PAPER NUMBER	
LOS ANGELES, CA 90025-1030			2634	

DATE MAILED: 04/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/670,475

Applicant(s)

HINMAN ET AL.

Examiner

Shuwang Liu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/10/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12/10/05 have been fully considered but they are not persuasive. The Examiner has thoroughly reviewed Applicant's arguments but firmly believes that the cited reference reasonably and properly meets the claimed limitation as rejected.

(1) Drawing objection:

Applicant's argument – Applicants do not consider the information illustrated in Figures 5 and 6 illustrate prior art.

Examiner's response – For example, Applicants show that "FIG. 5 illustrates an equivalent circuit of a conventional load coil" in the brief description of the drawings and "FIG. % illustrates an equivalent circuit 500 of a balanced coupled inductor, such as the type used in conventional load coils" in Detailed description. The term of "conventional" is defined as "conforming to established practice or accepted standards" (Webster's II, New Riverside University Dictionary, 1984). Therefore, the "conventional" is well known to be as "prior art."

(2) regarding claim 9:

Applicant's argument – Dew does not teach or suggest connecting "a first capacitor disposed between the upstream end of the first inductor and the downstream end of the second inductor." Similarly Dew does not teach or suggest connecting "a

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second capacitor disposed between the upstream end of the second inductor and the downstream end of the first inductor.”

Examiner’s response – As shown in figure in figure 2, Dew does teach or suggest connecting “a first capacitor (C_{ic} , one of two C_{ic}) disposed between the upstream end of the first inductor (of coil 24) and the downstream end of the second inductor (of coil 26).” Dew does also teach or suggest connecting “a second capacitor (C_{ic} , another of two C_{ic}) disposed between the upstream end of the second inductor (of coil 26) and the downstream end of the first inductor (of coil 24).” Similarly, as shown in figure 4, Dew does teach or suggest connecting “a first capacitor (C'_{ic} , one of two C'_{ic}) disposed between the upstream end of the first inductor (of coil 42) and the downstream end of the second inductor (of coil 44).” Dew does also teach or suggest connecting “a second capacitor (C'_{ic} , another of two C'_{ic}) disposed between the upstream end of the second inductor (of coil 44) and the downstream end of the first inductor (of coil 42).”

(3) regarding claim 11:

Applicant’s argument – Applicants amends “wherein the load coil having one or more capacitors electrically connected parallel with an inter-winding capacitance between windings of the load coil.”

Examiner’s response – the new amendment is not described in the specification and figures. Which capacitor is electrically connected **parallel with** an inter-winding capacitance between windings of the load coil?

(4) regarding claims 2, 3, 5, 7, and 8:

Applicant's argument – "If a reference does not recognize that a relationship exists between two components, such as the interwinding capacitance and the intrawinding capacitance of load coil, then the reference cannot teach using that relationship between those components to achieve a desired result without the aid of inappropriate hindsight after reading applicants own patent application."

Examiner's response – In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The Drew's reference teaches the inter-winding capacitance C'_{ic} in the range 50 nF to 200 nF and intra-winding capacitance C_w is 288 nF. Therefore, Dew's reference teaches that the ratio between inter-winding capacitance to the intrawinding is the range 0.17 to 0.70. Furthermore, Dew's reference teaches the frequency response of the transmission line as shown in figure 6 and the effect of the load coils 22 on the frequency response of the transmission line. That is, the relation between the ratio between inter-winding capacitance to the intra-winding capacitance and the frequency response (or impedance of the load coil to signals) is well known. The values of the capacitances of the windings depend on the required application, as long as the impedance of the loading coil to a range of frequency meets the requirement.

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Therefore, to select the ratio of the inter-winding capacitance and the intra-winding capacitance would have been a matter of obvious design choice to one of ordinary skill in the art as taught by the reference and was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure.

Drawings

2. Figures 5 and 6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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4. Claims 11-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification and figures do not describe the load coil having one or more capacitors electrically connected parallel with an inter-winding capacitance between windings of the load coil as recited in claims 11 and 19, wherein the capacitance value is based on the inter-winding capacitance value to pass DSL signals as recited in claims 20 and 21. As defined in the specification, the inter-winding capacitance generally refers to the capacitance between the first and second windings and is measured between opposite legs of two windings.” That is, any capacitor located between the first and second windings is defined as inter-winding capacitor. Which capacitor is electrically connected **parallel with an inter-winding capacitance** between windings of the load coil as shown in the figures? Furthermore, figure 11 only teaches “each of the capacitors 1120 and 1122 has a capacitance that approximates the intra-winding capacitance of one of the windings 1102 and 1112. Figure 11 does not teach that the capacitance value is based on the intra-winding capacitance instead of the inter-winding capacitance value.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 9 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Drew (US 6,546,100, see IDS, paper# 9).

As shown in figures 2-4, Drew discloses a load coil, comprising:

a first inductor (see figures) including a first winding (42) and a first core (see figures), the first winding having upstream and downstream ends (see figures) and a first intra-winding capacitance (C_w);

a second inductor (see figures) including a second winding (44) and a second core (see figures), the second winding having upstream and downstream ends (see figures) and having a second intra-winding capacitance (C_w);

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a first capacitor (C'_{ic} , one of two C'_{ic}) disposed between the upstream end of the first inductor and the downstream end of the second inductor to offset at least a portion of the first and second intra-winding capacitances for improving the impedance of the load coil to DSL-band signals (abstract and column 1, lines 41-48); and

a second capacitor (C'_{ic} , another of two C'_{ic}) disposed between the upstream end of the second inductor and the downstream end of the first inductor to offset at least a portion of the first and second intra-winding capacitances for improving the impedance of the load coil to DSL-band signals (abstract and column 1, lines 41-48).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2, 3, 5, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dew.

Regarding claims 2, 3, 7 and 8, although Dew doesn't specifically disclose the ration of the inter-winding capacitance and intra-winding capacitance is in the claimed range, such limitation are merely a matter of design choice and would have been obvious in the system of Dew. Dew teaches the values of the interwinding capacitance

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and the intrawinding capacitance depends the value of the inductance, the gauge of wire used in the windings and their physical geometry. Furthermore, Dew teaches the capacitance of the loading coil effects the frequency response of the line. In order to provide a relative flat frequency response in the voice frequency band and a decrease in attenuation in the high frequency response for providing ADSL type service, one skilled in the art has to select required interwinding and intrawinding capacitances. The limitations in claims do not define a patentably distinct invention over that in Dew reference since both the invention as a whole are directed to decrease the attenuation in the high frequency. The values of the capacitances of the windings depend on the required application, so long as the impedance of the loading coil to a range of frequency meets the requirement. Therefore, to select the ratio of the interwinding capacitance and the intrawinding capacitance would have been a matter of obvious design choice to one of ordinary skill in the art.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuwang Liu whose telephone number is 571 272-3036. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Shuwang Liu
Primary Examiner
Art Unit 2634

March 28, 2005